

REMARKS

Claims 1-9 and 17-32 are all of the claims presently pending in the application. Claims 1-4, 6-8, 17, 18, and 20-31 have been amended to more particularly define the invention. No new matter has been added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1, 6, 7, and 17-30 stand rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite.

With respect to the prior art, claims 1 and 20-30 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Bannai et al. (U.S. Patent No. 7,118,831).

Applicants respectfully appreciate and acknowledge the Examiner's indication that claims 2-5, 8, and 9 have been allowed. However, Applicants respectfully submit that claims 6, 7, and 17-19 should also be allowed, pending the successful traversal of, or amendment to overcome, the 35 U.S.C. § 112, second paragraph rejection. In addition, Applicants respectfully submit that all presently pending claims are in condition for allowance.

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

An exemplary aspect of the claimed invention (e.g., as recited in claim 1) is directed to an anode for a secondary battery including an anode active material layer which absorbs and discharges lithium ions, the anode active material layer including a first layer including carbon as a chief ingredient, and a second layer including at least one first element having a theoretical

capacity greater than a theoretical capacity of graphite, and at least one second element having a theoretical capacity equal to or less than the theoretical capacity of graphite, the at least one second element including at least one element selected from the group consisting of C and Fe.

Conventional anodes for secondary batteries often are not able to attain a sufficiently high operation voltage. Also, a homogeneous electric field strength cannot be obtained through cathode and the conventional anode. Thus, a sufficiently stable operation cannot be obtained. Moreover, the deterioration in the capacity of the battery is severe in association with a cycle formed by the conventional anode (Application at page 1, line 10 to page 3, line 13).

The claimed invention, on the other hand, is directed to an anode for a secondary battery including an anode active material layer including a second layer including at least one first element having a theoretical capacity greater than a theoretical capacity of graphite, and at least one second element having a theoretical capacity equal to or less than the theoretical capacity of graphite, the at least one second element including at least one element selected from the group consisting of C and Fe (Application at page 7, line 15 to page 8, line 12). This feature may provide an anode for a secondary battery which has a high operation voltage, a stable operation, and a long life (Application at page 7, line 11-14).

II. THE 35 U.S.C. § 112, SECOND PARAGRAPH REJECTION

The Examiner alleges that claims 1, 6, 7, and 17-30 are indefinite because Markush language in claims 1, 6, 7, 17, 20, and 27 is incorrect.

While Applicants respectfully submit that one of ordinary skill in the art would clearly understand all of the presently pending claims as is, to expedite prosecution, claims 1, 6, 7, 17, 20 and 27 have been amended to alleviate the Examiner's concerns. As previously stated, since claims 6, 7, and 17-19 depend from base claims which have been already allowed, Applicants respectfully submit that claims 6, 7, and 17-19 are now clearly in condition for allowance.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

III. THE PRIOR ART REJECTION – The Bannai Reference

Bannai discloses an anode with a multi-layer structure (Bannai at Abstract). The Examiner alleges that Bannai anticipates the claimed invention. However, Applicants respectfully submit that Bannai clearly fails to teach or suggest all features of the claimed invention.

Specifically, Bannai fails to teach or suggest an anode for a secondary battery “*comprising . . . an active anode material layer . . . comprising . . . a second layer comprising . . . at least one second element having a theoretical capacity equal to or less than the theoretical capacity of graphite, said at least one second element comprising at least one element selected from the group consisting of C and Fe*”, as recited, for example, in claim 1 (Application at page 7, line 15 to page 8, line 12). As previously mentioned, this exemplary feature may provide an anode for a secondary battery which has a high operation voltage, a stable operation, and a long life (Application at page 7, line 11-14).

The Examiner fails to particularly point out the rejection of the claimed invention. Specifically, the Examiner fails to particularly point out where Bannai teaches or suggests the above-referenced exemplary feature.

The Examiner alleges that the uppermost layers 21/22 in Figure 4 of Bannai teach the second layer of the claimed invention. However, Bannai clearly fails to teach or suggest the second layer of the claimed invention. Indeed, Applicants respectfully submit that the second layer of the claimed invention includes at least a first element and at least a second element, *not* at least a first layer and at least a second layer. Bannai clearly fails to teach or suggest a second anode layer having at least a first element and at least a second element. Thus, the Examiner’s

allegation that the uppermost layers 21/22 in Figure 4 of Bannai teach the second layer of the claimed invention is clearly erroneous.

Beginning with reference to Figure 1 of Bannai, Bannai very clearly teaches an anode current collector 20, a first layer 21, and a second layer 22. The first layer 21 has carbon as a main component. The second layer 22 has lithium-ion conductivity and has a material as a main component which can insert and extract lithium ions.

However, Bannai completely fails to teach or suggest that the second layer 22 has a second element having a theoretical capacity equal to or less than the theoretical capacity of graphite, the at least one second element including at least one element selected from the group consisting of C and Fe. Indeed, Bannai fails to teach or suggest a second layer 22 having either C or Fe.

While the Examiner alleges that Figure 4 teaches the exemplary feature of the claimed invention, Applicants respectfully submit that the second layers 22 of Figure 4 do not have either C or Fe. Bannai suggests that the first layers 21 of Figure 4 are made of carbon and are part of the exemplary feature of the claimed invention. However, when examined in light of the specifications and the drawings, as the Examiner is required to do, the first layers 21 of Bannai, regardless of which drawing is referenced, cannot be considered a part of the second layer of the claimed invention. One having ordinary skill in the art would clearly determine that the uppermost layers 21/22 of Bannai cannot teach or suggest the second layer of the claimed invention.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

IV. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicants submit that claims 1-9 and 17-32, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. Applicants respectfully request the Examiner to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, Applicants request the Examiner to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The undersigned authorizes the Commissioner to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,



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